AMENDMENTS TO THE CLAIMS

1. (currently amended) A method for forming a Josephson junction, the method comprising the following steps of:

forming a two-layer film having an amorphous MgO layer and a high orientation MgO layer on a Si substrate; and

laminating ~~a~~ an NbN film or an NbCN film on the two-layer film.

2. (original) The method according to claim 1, wherein the NbN film or the NbCN film is used as an electrode.

3. (currently amended) ~~A~~ The Josephson junction formed by the method according to claim 1.

4. (currently amended) A Josephson junction comprising:

a Si substrate;

a two layer film comprising an amorphous MgO layer and a high orientation MgO layer on the Si substrate; and

~~a~~ an NbN film or ~~a~~ an NbCN film laminated on the two layer film.

5. (original) The Josephson junction according to claim 4, wherein the NbN film or the NbCN film is used as an electrode.

6. (currently amended) A Josephson junction array comprising: at least one Josephson junction comprising a Si substrate, a two layer film comprising an amorphous MgO layer and a high orientation MgO layer on the Si substrate, and ~~a~~ an NbN film or ~~a~~ an NbCN film laminated on the two layer film.

7. (original) The Josephson junction array according to claim 6, wherein the NbN film or the NbCN film is used as an electrode.

8. (currently amended) A digital to analog converter comprising: Josephson junction arrays comprising Josephson junctions, wherein at least one of the Josephson junctions comprises a Si substrate, a two layer film comprising an amorphous MgO layer and a high orientation MgO layer on the Si substrate, and ~~a~~ an NbN film or ~~a~~ an NbCN film laminated on the two layer film.

9. (original) The Josephson junction array according to claim 8, wherein the NbN film or the NbCN film is used as an electrode.

10. (currently amended) A Josephson voltage generating apparatus comprising: a digital to analog converter comprising junction arrays for programmable converter using Josephson junctions, wherein at least one of the Josephson junctions comprises a Si substrate, a two layer film comprising an amorphous MgO layer and a high orientation MgO layer on the Si substrate, and ~~a~~ an NbN film or ~~a~~ an NbCN film laminated on the two layer film.

11. (original) The Josephson junction array according to claim 10, wherein the NbN film or the NbCN film is used as an electrode.

12. (currently amended) A Josephson voltage standard apparatus comprising: a digital to analog converter comprising junction arrays for programmable converter using at least one Josephson junction, wherein at least one of the Josephson junctions comprises a Si substrate, a two layer film comprising an amorphous MgO layer and a high orientation MgO layer on the Si substrate, and ~~a~~ an NbN film or ~~a~~ an NbCN film laminated on the two layer film.

13. (original) The Josephson junction array according to claim 12, wherein the NbN film or the NbCN film is used as an electrode.

14. (currently amended) A superconducting sub-millimeter wave oscillator, comprising: at least one Josephson junction comprising a Si substrate, a two layer film comprising an amorphous MgO layer and a high orientation MgO layer on the Si substrate, and ~~a~~ an NbN film or ~~a~~ an NbCN film laminated on the two layer film.

15. (original) The superconducting sub-millimeter wave oscillator, according to claim 14, wherein the NbN film or the NbCN film is used as an electrode.

16. (currently amended) A superconducting quantum interference device, comprising: at least one Josephson junction comprising a Si substrate, a two

layer film comprising an amorphous MgO layer and a high orientation MgO layer on the Si substrate, and ~~a~~ an NbN film or ~~a~~ an NbCN film laminated on the two layer film.

17. (original) The superconducting quantum interference device according to claim 16, wherein the NbN film or the NbCN film is used as an electrode.

18. (currently amended) A superconductivity digital integrated circuit comprising: at least one Josephson junction comprising a Si substrate, a two layer film comprising an amorphous MgO layer and a high orientation MgO layer on the Si substrate, and ~~a~~ an NbN film or ~~a~~ an NbCN film laminated on the two layer film.

19. (original) The superconductive digital integrated circuit according to clam 18, wherein the NbN film or the NbCN film is used as an electrode.

Please add the following claims:

20. (new) A method for forming a device having a silicon substrate and an NbN or NbCN film, the method comprising the following steps of:

forming an amorphous MgO layer;

forming a high orientation MgO layer; and

forming an NbN film or an NbCN film after forming the high orientation MgO layer,

wherein the amorphous MgO layer is formed between the Si substrate and the high orientation MgO and the high orientation MgO layer is formed between the amorphous MgO layer and the NbN film or NbCN film.

21. (new) A device comprising:

a Si substrate;

an amorphous MgO layer;

a high orientation MgO layer; and

an NbN film or an NbCN film,

wherein the amorphous MgO layer is formed between the Si substrate and the high orientation MgO and the high orientation MgO layer is formed between the amorphous MgO layer and the NbN film or NbCN film.